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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,993	09/26/2005	Michael A. Kraemer	58488US004	1419
32692 7590 02/10/2009 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER PIERRE LOUIS, ANDRE				
ART UNIT 2123		PAPER NUMBER		
NOTIFICATION DATE 02/10/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/550,993

Applicant(s)

KRAEMER ET AL.

Examiner

ANDRE PIERRE LOUIS

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

1. The amendment filed on 11/13/2008 has been received and fully considered.
2. Claims 5, 7-11 are cancelled and claims 1-4, 6 are presented for examination.
3. Regarding the claims' objections, the Examiner withdraws the objections in view of the amendment.
4. As per the rejection under 35 USC 101, the Examiner withdraws the rejection in view of the amendment.
5. With regards to the rejection under 35 USC 112, the Examiner withdraws the rejection in view of the amendment.

Response to Arguments

6. Applicant's arguments filed 11/13/2008 have been fully considered but they are not persuasive.

6.1 Applicant's argues that O'Brien does not teach generating control data and neither O'Brien nor Duret describe displaying such a the control surface with the prosthesis, and the modified image, as recited in the claims; the Examiner respectfully disagrees and notes that O'Brien discloses a prosthesis manufacturing process that includes creating 3D data representing the surfaces and based on the data, a 3D digital data file corresponding to the dental prosthesis is created before using said 3D digital data to manufacture the dental prosthesis (*see abstract, col.2 lines 44-54*). With the aid a CAD equipment, a display monitor is used to display the dental prosthesis based on the collected digital 3D data corresponding to the surfaces of the model (*see col.2 lines 54-58*) wherein a modification is made of the image and the modified images is displayed on a monitor screen to substantially correspond to the dental prosthesis to be

manufactured (*col.2 line 58-62*). The Examiner respectfully notes that the 3D digital data file created by O'Brien is substantially similar the control data generated by the applicant, as O'Brien discloses using these 3D data corresponding to the surfaces to control how/where the dental prosthesis would be modeled/manufactured and would clearly be understood by one of ordinary skilled in the art (*also see col.2 line 44-col.3 line 11 and col.4 lines 22-47*). While, as previously stated, O'Brien does not specifically state that the created 3D digital data is a control data, as the claim calls it, one of ordinary skilled in the art would clearly understand that the 3D data file is specifically created by O'Brien to specifically correspond to the surfaces that are used to properly model the dental prosthesis so as to ensure stability of the design dental prosthesis. Nevertheless, Duret was brought in for further support of the rejection, as he discloses generating a control data using control unit 112 of fig.7 and modifying the displayed image using modification unit 11 still of fig.7 during his dental prosthesis making process (*also see title*). Figure 15 further show the modified image of a dental prosthesis with its corresponding plane.

6.2 While the Applicant believes that the independent claims along with their dependencies should be found allowable, the Examiner respectfully disagrees and asserts that the combined teachings the cited references teach the entire claimed invention, as evidenced by the grounds of rejection below along the response to arguments. The Applicant are further encouraged to look at the additional references cited but not used located in the conclusion section of this and previous office action. Found the Applicant's arguments non-persuasive, the Examiner maintains the rejection of the independent claims along with their dependencies.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7.0 Claims 1-4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien et al. (U.S. Patent No. 6,915,178), in view of Duret et al. (U.S. Patent No. 4,663,720).

7.1 In considering the independent claims 1 and 6, O'Brien et al. substantially teaches a method for processing data regarding a dental prosthesis, the method comprising the steps of:

a) providing input data which represent a three-dimensional surface of a tooth stump prepared for a prosthesis (*fig.1, col.2 lines 44-55*); b) providing stability requirements for the prosthesis (*fig.1, 5, col.4 line 14-col.5 line 22*); c) generating control data from said input data, said control data representing a control surface which meets the stability requirements (col.2 line 44-col.3 line 11); d) generating design data which represent the three-dimensional shape of the prosthesis (*col.2 line 44-col.3 line 3 and col.4 line 14-47*); and e) displaying the shape of the prosthesis together with the control surface on a monitor, wherein the design data are modified by a user based on a visual comparison of the displayed design data and the displayed control surface in

order to meet the stability requirements, and the design of the prosthesis corresponding to the modified design data is displayed on the monitor together with the control surface (*fig.2-4, col.4 line 14-47 and col.2 line 44-col.3 line 11*). Although O'Brien et al. does not specifically state that the generated data is a control data; one of ordinary skilled in the art would clearly appreciated the approach taken by O'Brien et al. in representing the surfaces used to accurately create and display the dental prosthesis (*see fig.1-2, col.4 line 14-col.4 line 22*). Nevertheless, Duret et al. substantially teaches generating a control data output using a numerical control unit and providing an interference check used to select a best fit shape and size (*see abstract, fig.7, also see col.6 line 17-44*). The cited references further provide the followings with regards to claim 6: (a) an input device (*see O'Brien et al. fig.5 (28), also see Duret et al. fig.7 and 21*); (b) a central unit (*see O'Brien et al. fig.5 (24 and 24A), also see Duret et al. fig.7 and 21*); and (c) a display device (*see O'Brien et al. fig.5 (30), also see Duret et al. fig.7 and 21*). O'Brien et al. and Duret et al. are analogous art because they are from the same field of endeavor and that the method teaches by Duret et al. is similar to that of O'Brien et al. Therefore, it would have been obvious to one of ordinary skilled in the art to combine the dental prosthesis of Duret et al. with the dental prosthesis manufacturing of O'Brien et al. because Duret et al. teaches the advantage of high precision and speed in the production of the prosthesis (*see col.3 lines 19-28*).

7.2 With regards to claim 2, the combined teachings of O'Brien et al. and Duret et al. substantially teach that the design data are generated from the input data (*see O'Brien et al. col.4line 4-47*).

7.3 As per claim 3, the combined teachings of O'Brien et al. and Duret et al. substantially teach the outer surface of the prosthesis is scaled differently in at least two spatial

axes such that a given preparation margin remains thereby unchanged (*see O'Brien et al. fig.2-3, col.4 line 14-col.5 line 12; also see Duret et al. abstract*).

7.4 With regards to claim 4, the combined teachings of O'Brien et al. and Duret et al. substantially teach the control surface meets the stability requirements (*see O'Brien et al. fig.1-2, col.2 line 44-col.3 line 11; also see Duret et al. abstract*).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8.1 Liyama et al. (USPG_PUB No. 2002/0102521) teaches a process for preparing a dental prosthesis.

9. Claims 1-4, and 6 are rejected and **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDRE PIERRE LOUIS whose telephone number is (571)272-8636. The examiner can normally be reached on Mon-Fri, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. P. L/
Examiner, Art Unit 2123

February 4, 2009

/Paul L Rodriguez/
Supervisory Patent Examiner, Art Unit 2123